

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1.-29. (canceled)

30. (currently amended) A method for pre-emphasis of an optical wavelength division multiplex signal of which signals with different wavelengths assembled in groups are transmitted over a channel of a transmission link with a number of sections and network elements, the channel selected from the group consisting of express channel, drop channel, add channel, and add-drop channels, the method comprising:

transmitting from a first network element to a second network element for the express channel;

injecting drop channels, add channels or add-drop channels at drop points that are arranged between the first and second network elements; and

achieving predetermined average optical signal-to-noise ratios in a network element for a termination group of signals and an injection point of the group, an average and an individual-channel power setting of the signals for the termination group, wherein for a non-termination group of signals the average power set to a preceding network element, wherein

depending on a encoding type of the counter and of a marking for dropping a group, a regulation protocol provided at a selected controlling network element for control of pre-emphasis steps with sub-pre-emphasis settings and/or the additional individual-channel pre-emphasis of the groups along the transmission link is selected,
and

after a receipt of a data packet having the counter with a value of 0, a network element controls the pre-emphasis steps for its subsequent network sections and the counter is incremented to 1, and

at the injection point, the average signal power of a group with drop channels dropped at a subsequent drop point is reduced in favor of the average signal power of an onwards-routed group of express channels, or the average signal power of a group with add-drop channels dropped at a subsequent drop point is reduced in favor of the average signal power of an onwards-routed group of express channels, or the average signal power of a group with drop channels terminated at a subsequent drop point is reduced in favor of the average signal power of an onwards-routed group of express channels, or the average signal power of a group with add-drop channels terminated at a subsequent drop point is reduced in favor of the average signal power of an onwards-routed group of express channels.

32. (previously presented) The method according to claim 31, further comprising redistributing via a signal power regulation of the average signal powers between the groups in injecting or switching network elements.

33. (previously presented) The method according to claim 30, wherein the average signal-to-noise ratios or differences between the signal-to-noise ratios of the groups of signals at corresponding termination points are determined by a network management system.

34. (previously presented) The method according to claim 30, wherein all channels at a corresponding point are changed individually and the average power modification of the channel group is calculated to determine the power modification.

35. (previously presented) The method according to claim 30, wherein for control of one of a sub-pre-emphasis settings, a network element is activated with the aid of a data packet which is transmitted outwards and backwards from a first injection point to the other network element section-by-section and which contains a marking of the injection and termination points of each of the groups of signals.

36. (previously presented) The method according to claim 35, wherein at a network element the data packet is used for control of one of the additional individual-channel pre-emphases of one of the groups of signals.

37. (previously presented) The method according to claim 36, wherein for control of a transmission direction and a data packet range between the network elements a counter in the data packet is initialized, or incremented or decremented.

38-39. (canceled)

40. (currently amended) The method according to claim [[39]]30, wherein after a receipt of a data packet having the counter with a value of 1 at a network element, a spectrum of the signals as well as the data packet from a network element are sent back along the transmission link and that on the backwards journey of the data packet through each network element without termination point, for the groups of the channels there the counter is incremented by 1.

41. (previously presented) The method according to claim 40, wherein for an unchanged counter the data packet is transmitted in an opposite direction.

42. (currently amended) The method according to claim [[39]]30, wherein at a network elements with a termination of a group of channels, a marking is activated in the transmitted packet for the group and the marking for the group is deleted at the injection point of the same group on return of the data packet.

43. (currently amended) The method according to claim [[39]]30, wherein after a receipt of a data packet having the counter at a value higher than 1 at a network element, the counter is decremented by 1 and the decremented counter transmitted forward towards a next network element or the counter is decremented by 1 and the decremented counter is transmitted backward towards a previous network element or the counter is

increment by 1 and the incremented counter is transmitted backward towards a previous network element, which is a controlling network element, and after a receipt of the backwards data packet by the controlling network element the counter remains unchanged.

44. (currently amended) The method according to claim [[39]]30, wherein after a receipt of a backwards data packet at the controlling network element, the counter remains unchanged or the counter is set to 0 and the network element having sent the backwards data packet is a new controlling network element for control of further pre-emphasis steps.

45. (currently amended) The method according to claim [[38]]30, wherein the pre-emphasis steps are controlled at different selected controlling network elements during the transmission of the data packet within the transmission link.

46. (previously presented) The method according to claim 45, wherein a network element which receives a data packet with a counter having a value of 1 in an uplink direction, returns values of the power spectrum for an unchanged counter to the beginning of the transmission link and marks groups of channels which are terminated at this network element.

47. (previously presented) The method according to claim 45, wherein a network element which receives a data packet with the counter having a value greater than 1 in the uplink directions, decrements the counter by 1 and transmits the data packet with the decremented counter to the next network element.

48. (previously presented) The method according to claim 45, wherein a network element which receives a data packet with the counter having a value greater than 1 in the backwards directions, increments the counter by 1 and transmits the data packet with the incremented counter to the preceding network element.

49. (previously presented) The method according to claim 48, wherein for all marked groups of channels which are inserted at the network element, an individual-channel pre-emphasis is executed an their corresponding markings are deleted.

50. (previously presented) The method according to claim 49, wherein for all non-marked groups of channels or groups of channels not inserted at the network element an equalization of the average power is used if the counter has the value 1.

51. (previously presented) The method according to claim 47, wherein if the value of the counter is not 1, an individual channel pre-emphasis for groups of channels marked and inserted at the network is preformed.

52. (previously presented) The method according to claim 51, wherein the average power per group remains constant.

53. (previously presented) The method according to claim 47, wherein a network element, at which all groups of channels are terminated and which receives a data packet in the uplink direction with a counter with a value of 2, transmits a data packet with a counter value of 0 and deactivates at the preceding network element.

54. (previously presented) The method according to claim 47, wherein after receiving data packet with a counter by a network element, the data packet is transmitted unchanged or the counter is incremented by 1 and the data packet with the incremented counter is transmitted.